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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/995,814

11/29/2001

Shuji Doi

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9735

7590 04/06/2009  
SUGHRUE MION, PLLC  
2100 Pennsylvania Avenue, NW  
Washington, DC 20037-3213

EXAMINER

YAMNITZKY, MARIE ROSE

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

04/06/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/995,814	<b>Applicant(s)</b> DOI ET AL.	
	<b>Examiner</b> Marie R. Yamnitzky	<b>Art Unit</b> 1794	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 February 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,6-17 and 28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,6-17 and 28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>04 Feb 2009</u> .   | 6) <input type="checkbox"/> Other: _____                          |

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1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submissions (amendment and IDS) filed on February 04, 2009 have been entered.

2. The amendment filed February 04, 2009 adds claim 28. Claims 1, 6-17 and 28 are pending.

3. The references listed on the IDS filed February 04, 2009 have been considered by the examiner and are made of record.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 and 6-17 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Uckert et al. (US 7,214,763 B2) for reasons of record in the Office action mailed August 04, 2008.

6. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uckert et al. (US 7,214,763 B2) as applied to claims 1 and 6-17 for reasons of record in the Office action mailed August 04, 2008, and for the further reasons set forth below.

Uckert et al. do not explicitly limit the molecular weight of the copolymers, but copolymers provided in Uckert's examples include copolymers having a number-average molecular weight within the range set forth in present claim 28 (see Table 1 in column 11). While Uckert et al. do not provide a specific example of a copolymer within the scope of claim 28, the presently claimed polymeric fluorescent substance is within the scope of Uckert's copolymers. It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to make and use various copolymers within Uckert's guidelines in addition to those of Uckert's examples in order to provide a variety of copolymers suitable for the purposes taught in the prior art.

7. Applicant's arguments filed February 04, 2009 have been fully considered but they are not persuasive.

Applicant argues that Uckert does not disclose or suggest a copolymer comprising a 2,7-fluorenediyl group and a substituted 2,6-naphthylenediyl group as claimed in present claim 1. Applicant further argues that Uckert does not provide a reason to manipulate its teachings to arrive at the presently claimed invention, and that Uckert does not teach that polymers comprising a repeating unit of naphthalene having one or more substituents as presently claimed are superior to those without substituents. Applicant references Example 1 and Comparative

Example 1 as set forth in the present specification as illustrating the superior properties of the presently claimed polymeric fluorescent substance.

The examiner agrees that Uckert does not disclose a specific example of a copolymer within the scope of the present claims, but disagrees that such copolymers are not suggested by Uckert's teachings. While Uckert does not anticipate the subject matter of the present claims, the examiner maintains the position that the subject matter of the present claims would have been obvious to one of ordinary skill in the art at the time of the invention given Uckert's teachings.

With respect to applicant's arguments regarding superior properties, while Example 1 demonstrates superior properties compared to Comparative Example 1, the data do not demonstrate superior properties commensurate in scope with the claims. For example, the polymeric fluorescent substance of Example 1 has two hexyloxy substituents ( $-\text{OC}_6\text{H}_{13}$ ), one on each ring of the naphthalene unit, whereas the naphthalene unit (the unit of present formula (1')) of the claimed polymeric fluorescent substance need only be substituted with a single substituent, which can be selected from a wide variety of substituents other than hexyloxy substituents. As another example, the polymeric fluorescent substance of Example 1 consists of units of formula (1)/(1') and (8)/(2') in a 50:50 molar ratio whereas the present claims encompass a much broader relative ratio of these repeating units; the amount of repeating units of formulae (1)/(1') may be as low as 0.1 mol% based on the total amount of repeating units represented by formulae (1)/(1') and (8)/(2').

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8. Any inquiry concerning this communication should be directed to Marie R. Yamnitzky at telephone number (571) 272-1531. The examiner works a flexible schedule but can generally be reached at this number from 7:00 a.m. to 3:30 p.m. Monday and Wednesday-Friday.

The current fax number for all official faxes is (571) 273-8300. (Unofficial faxes to be sent directly to examiner Yamnitzky can be sent to (571) 273-1531.)

/Marie R. Yamnitzky/  
Primary Examiner, Art Unit 1794

MRY  
April 01, 2009